

Surface Area Calculations

7.6-7.8

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Students will learn how to calculate surface area of various 3-D shapes

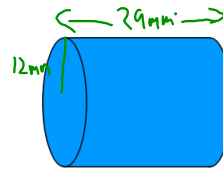
$$SA_{cyl} = 2\pi r^2 + 2\pi r h$$

$$SA_{prism} = 2(wh + lw + lh)$$

$$SA_{TRI PRISM} = AB + (ah) + (bv) + (cx) + bh + (fh) + (bx) + (cx)$$

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2c) p433



$$SA_{cyl} = 2\pi r^2 + 2\pi r h$$

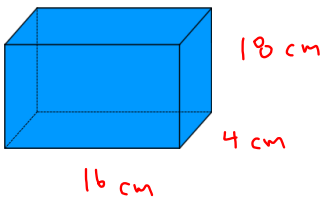
$$SA_{cyl} = 2\pi(12)^2 + 2\pi(12)(29)$$

$$SA_{cyl} = 6.28(144) + 6.28(348)$$

$$SA_{cyl} = 904.32 + 2185.44$$

$$= 3089.76 \text{ mm}^2$$

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$$SA_{prism} = 2(wh) + 2(lw) + 2(lh)$$

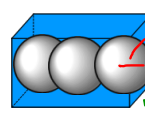
$$= 2(4 \times 18) + 2(16 \times 4) + 2(16 \times 18)$$

$$= 2(72) + 2(64) + 2(288)$$

$$= 144 + 128 + 576$$

$$= 848 \text{ cm}^2$$

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$$SA_{prism} = 2(wh + lh + lw)$$

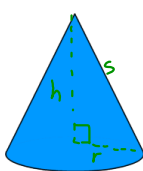
$$= 2[4.2(12.6) + 12.6(4.2) + (4.2)(4.2)]$$

$$= 2(52.92 + 52.92 + 17.64)$$

$$= 2(123.48)$$

$$= 246.96 \text{ cm}^2$$

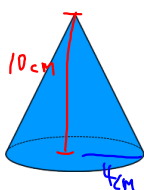
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$$A_T = \pi r s + \pi r^2$$

$$s^2 = h^2 + r^2$$

$$s = \sqrt{h^2 + r^2}$$



$$SA = \pi r^2 + \pi r s$$

$$= 3.14(4)^2 + 3.14(4)(10.7)$$

$$= 3.14(16) + 133.49$$

$$= 50.24 + 133.49$$

$$= 193.73 \text{ cm}^2$$

$$s = \sqrt{h^2 + r^2}$$

$$s = \sqrt{10^2 + 4^2}$$

$$s = \sqrt{116}$$

$$s = 10.7$$

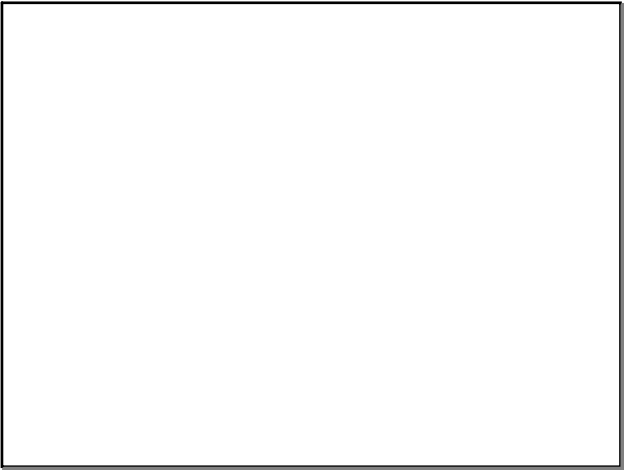
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a) 2 b, 3, 7, 11 a) c) e)

12*

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Nov 30-10:59 AM